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muscular action would be lost in the mere extension of an elastic substance, we find the filaments arrange themselves so as to become part of the inextensible tendon.

December 12th, 1848.

DR. BRIDGES in the Chair.

A letter was read from the Secretary of the American Academy of Arts and Sciences, dated Cambridge, Mass., December 7, 1848, transmitting Vol. 3, New Series, of its Memoirs.

Also a letter from Major Proby T. Cautley, dated Roorkhi, India, June 23, 1848, in relation to two boxes of fossils shipped by him in 1844 for the Academy.

Mr. Conrad presented a paper entitled, "Descriptions of two new genera and three new species of recent Shells," &c., which was referred to Drs. Griffith, Wilson, and Leidy.

December 19th, 1848.

MR. PHILLIPS in the Chair.

A letter was read from Lieut. J. M. Gilliss, U. S. N., dated Washington, December 11, 1848, acknowledging the receipt of his notice of election as a Correspondent.

Mr. Conrad read the descriptions of four new species of recent Shells, as an addition to his paper presented at last meeting. Referred to the same Committee.

Dr. Gambel presented a Catalogue of the family Columbidae contained in the collection of the Academy, with remarks on the same; which was referred to a Committee, consisting of Mr. Cassin, Dr. Wilson, and Dr. Townsend.

Mr. Cassin read a paper entitled "Descriptions of new species of Owl," in the collection of the Academy of Natural Sciences of Philadelphia. Referred to Drs. Wilson, Gambel, and Townsend.

Dr. Gambel read a paper entitled "Contributions to American Ornithology," which was referred to Mr. Cassin, Dr. Townsend, and Dr. Heerman.

Dr. Hallowell read the description of a new Salamander, from California. Referred to Dr. Leidy, Dr. Gambel, and Dr. Bridges.

On motion it was unanimously *Resolved*, That the Publication Committee be authorized to present to Dr. William Blanding a copy of Parts 1 and 2, New Series, of the Journal of the Academy.

December 26th, 1848.

Dr. Bridges in the Chair.

The Committee to whom was referred Mr. Conrad's descriptions of new Shells, read 12th and 19th insts., reported in favour of publication entire in Part 3, New Series, of the Journal, and the following abstract in the Proceedings.

Description of two new Genera and new species of recent Shells, &c.

By T. A. CONRAD.

PARAPHOLAS, *Con.*

Shell pholas-like; accessory valves two, nearly similar in form, elongated, one extending from the umbo to the posterior extremity; the other united to the base; hinge plate thick; adductor muscular impressions greatly elongated.

PHOLAS CALIFORNICA, *Con. Jour. Acad. Nat. Sc.*, vol. 7, p. 236 pl. 15, fig. 35.

CRYPTOMYA.

Shell bivalve, closed or very slightly gaping posteriorly; hinge similar to that of Mya; pallial impression without a sinus, forming a right angle posteriorly.

SPHENIA CALIFORNICA, *Con. Jour. Acad. Nat. Sc.*, vol. 7, p. 234, pl. 17, fig. 11.

Lyonsia floridana.

OSTRODESMA HYALINA? *Con. Proceed. Acad. Nat. Sc.*, vol. 3, p. 24, pl. 1, fig. 7.

Leguminaria floridana.

SOLECURTUS FRAGILIS, var. *Con. Proceed. Acad. Nat. Sc.*, vol. 3, p. 24, pl. 1, fig. 10.

PLECTOLITHES, *Con.*

PLECTOSTYLUS HILDRETHII, *Con. Vol. 8, p. 275, pl. 17, fig. 2.*

Triton nobilis.

Body whorl dilated, humped on the upper part, about which three of the ribs are prominent, rounded; the lower one broadest. Length 11 inches. Width $5\frac{3}{4}$ inch. (West Indies.)

TRITON VARIEGATUS, Reeve. *Conch. Icon.* pl. 1, fig. 3a.

PSAMMOBIA CALIFORNICA, *Journ. Acad. Nat. Sc.*, vol. 7, pl. 19, fig. 3.

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The Committee on Mr. Cassin's descriptions of new Owls, reported in favour of publication.

Descriptions of Owls, presumed to be undescribed, specimens of which are in the collection of the Academy of Natural Sciences of Philadelphia.

By JOHN CASSIN.

EPHIALTES *sagittatus*, nobis. Adult? Entire plumage above rufous brown, inclining to chestnut; plumage of the head with small pale spots encircled with black, bordering the shafts of the feathers, and near the tips assuming a hastate or sagittate form.

Plumage of the back with every feather having about three to five spots of the same description, the arrow-headed shape and black border distinct and well defined, some of the spots nearly white; every feather also with very fine transverse lines, and minutely dotted or freckled with black.

Wing coverts with pale, nearly white, sagittate spots encircled with black. Internal coverts of the wings pale fawn yellow, more or less spotted with black, and with their tips broadly terminated with black, which forms a conspicuous bar on the inferior surface of the wing. Outer edge of scapulars nearly white with black spots. External webs of primaries with alternate bands of pale and darker rufous brown; internal webs much darker, with nearly black bands alternating with others slightly paler, which (the paler) are mottled with black towards the extremities of the quills. Exposed ends of the secondaries rufous brown, with large pale spots on the shafts, approaching the sagittate form, with their black borders extending into transverse narrow bands. First primary shortest, fifth and sixth longest.

Feathers encircling the eyes, and the long bristle-like feathers at the base of the bill dark chestnut brown, the latter freckled with black; between the eye and the cavity of the ear whitish, with transverse lines, and broadly tipped with deep rufous brown. Feathers of the ruff white at their bases, with narrow transverse lines of deep rufous, but presenting a broad subterminal band of pure white, every feather terminated with a semicircular or lunular band of bright rufous brown.

Front and superciliary region white, the feathers of the former with their shafts and with some minute marks of very dark brown, superciliary feathers with well defined tips of nearly black. Shorter (or anterior) feathers of the ear-like tufts white, with minute transverse lines and freckles of rufous brown, longer feathers of the tufts brown on their external and white on their internal webs, transversely lined and tipped with darker brown.

General colour of the under surface of the body very pale rufous and sordid yellowish white, on the breast with every feather having about five to seven very narrow transverse bands more or less distinctly defined, of blackish brown, and minutely and irregularly dotted with the same colour. Abdominal region with the bands less numerous, and many of the feathers having several irregularly shaped, though rather rounded and sagittate spots of nearly black.

Tarsi covered to the toes with pale rufous whitish feathers. Toes naked.

Tail same rufous brown as the back, with alternate bands of darker and paler shades, in some instances the paler band on the external opposite to the darker band on the internal web.

Bill and feet yellow, claws long and slender.

Total length of skin, about 10 inches, wing 7, tail $4\frac{1}{2}$ inches.

Very young. Upper surface of the head and body pale yellowish and sordid rufous, every feather with several narrow transverse dark lines. Breast and belly darker, with the spots more distinctly rounded and occupying the whole breast and inferior surface.

Wings and tail more fully developed than the other plumage.

Hab. India?

One specimen of this species, without label, belongs to the Rivoli collection; another, which is that of a young bird, labelled Malacca, has been received from Mr. Edward Wilson, who obtained it in Paris. I am acquainted with no species of *Ephialtes* with which this can readily be confounded, and, in fact, it looks more like Dr. Horsfield's plate of *Strix (Phodilus) badius*, than any other which

I have met with, and is about the same size, (as the figure,) while in general appearance, particularly in the colouring of the breast and belly, it bears some resemblance to *Strix* (*Lophostrix*) *cristata*, Daud., (*griseata*, Lath.) It is, however, a true *Ephialtes*, though an aberrant species. The sagittate spots distinguish it, and as far as I know are peculiar.

EPHIALTES Watsonii, nobis. Summit of the head black, with a few very minute pale spots, more numerous on the front and eyebrows. Shorter feathers of the ear tufts black, others black also, but with their inner webs spotted or mottled with white. A semicircle above the eye extending to the ear tufts, black; rigid feathers at the base of the bill black, with pale grayish terminations; feathers immediately below the eye gray, mottled and broadly tipped with black.

Discal feathers grayish white, many of them speckled, and all tipped with black, presenting a white and black semicollar or ruff on each side of the neck. Plumage of the throat with fine alternate bars of black and nearly white.

Neck above with a well defined collar, the feathers composing which are strongly fulvous, terminated with white and speckled with black.

Back, rump, tail, and wing coverts mottled and freckled with grayish white upon a black ground, many of the feathers having about three to five very irregular transverse bands of whitish; on the wing coverts and back some of the pale marks are almost circular with black centres, others are of irregular form also enclosing centres of black.

External webs of the primaries black, with subquadrate nearly white bars, nearly all of which have black centres, assuming, also, a more or less well defined square form. Internal webs of primaries with alternate bands of different shades of black.

Breast and entire inferior parts pale fulvous, every feather conspicuously marked on the shaft longitudinally with black, and with very irregular transverse bands and irregularly mottled with black; the black markings most numerous and most irregular on the breast. Many of the feathers on the breast with very pale nearly white spots, having somewhat the appearance of being distributed in pairs.

Tail black, with about seven or eight narrow irregular grayish bands, many of which have central lines of black.

Tarsi feathered to the toes, pale fulvous white, mottled with black.

Bill horn colour at the base, whitish at the tip.

Total length (of skin) about $9\frac{1}{2}$ inches, wing 7, tail $3\frac{1}{2}$ inches.

Younger? Plumage above paler, with small spots and minute freckles of grayish white, scarcely assuming the appearance of bands.

Breast with the dark markings predominating, and tending to form a broad pectoral band; lower parts of the body bright fulvous, with black marks.

Hab. South America.

This species bears some resemblance to *Ephialtes atricapilla*, (Natt.) Temm. pl. col. 145, but is much larger, and has only one nuchal collar. The general colour above is also much darker; the fulvous colouring of the inferior surface of the body is also a striking difference.

One specimen of this species in the Rivoli collection is labelled "Orenoque," and another in the collection of the Academy is probably from South America.

I have named this bird in honor of Gavin Watson, M. D., of this city, a gentlemen of extensive knowledge of natural history, much attached to the study of the American Raptores, and an especial admirer of the Owls.

SYRNIUM albo-gularis, nobis. Entire plumage above deep umber brown, every feather more or less finely vermiculated and minutely spotted with black; on the head also transversely lined and spotted with pure white, especially in the region of the occiput, where upon some feathers the white spots are disposed regularly in pairs, upon the opposite webs.

Feathers of the back and rump having also three or four irregular transverse lines, and irregularly spotted with pale brownish nearly white. Scapulars broadly barred and edged with white.

Lesser wing coverts with irregular lines of pale brownish, and with large white marks on their external webs. Primaries with their external webs nearly black, with about eight to twelve square spots or bands of fulvous. Internal webs of primaries plain black or with obscure bands.

Eyebrow white; a large semicircular segment of white covering the jaws and throat, interrupted at the base of the under mandible by a few brownish feathers; many of those white feathers conspicuously tipped with black, forming a well defined semicircular discal collar, or ruff.

Breast with a broad band of same umber brown as the back, every feather irregularly lined and minutely spotted with black, many of the feathers also with subrounded spots of pure white, occasionally disposed in pairs.

Abdomen, flanks, and under tail coverts fulvous, every feather marked longitudinally with black, and about one to three transverse marks of the same colour, assuming a partially lyrate form; these marks less distinct on the flanks.

Tail umber brown, with about eight to ten irregular pale brownish white bars: under surface paler.

Plumage of the tarsi reaching nearly to the toes, pale reddish fulvous; tibial plumage darker, inclining to ferruginous; toes naked.

Bill yellow.

Total length about $9\frac{1}{2}$ inches, wing 8, tail $4\frac{1}{2}$ inches.

Hab. South America.

Two specimens of this bird in the Rivoli collection are without label, a third obtained in Paris by Mr. Edward Wilson is labelled "South America."

I am acquainted with no species which in any considerable degree resembles the bird now described, nor have I met with a description applicable to it.

SYRNIUM virgatum, nobis. Plumage of the entire upper surface dark umber brown, every feather having about three to five irregular transverse narrow bands of sordid yellowish white, most numerous and distinct on the head and rump. Upper tail coverts banded with pure white.

Scapulars obliquely banded on their outer webs with fulvous, on their inner webs more or less regularly banded with yellowish white. Wing coverts with broader bands, and also mottled and pointed at their tips with whitish.

Primaries very dark brown, nearly black, external webs with about seven

square spots of grayish white, some of which enclose central spots of dark brown, and all more or less dotted and mottled with the same colour. These square spots less regular on the first and second primaries; all the primaries with broad pale tips. Internal webs with regular bands of dark and paler brownish black.

General colour of the face same as the head and back, superciliary plumage and discal circle nearly white, more or less spotted and lined with deep brown.

Breast deep umber brown tinged with fulvous, every feather having about three very irregular transverse bands, which are broader and paler than those of the back, though of the same character; on the lower part of the breast these bands are nearly white.

Abdomen pale fulvous, every feather with a longitudinal stripe of black, and with one or two transverse irregular bands at the tip of the same colour, ventral region and under tail coverts pale fulvous, nearly white, with a trace of blackish spots.

Tarsi dark fulvous, mottled with brown; feathered to the toes.

Tail black, tipped with white, and having about five bands, which are brownish on the outer and white on the inner webs.

Bill horn colour at the base, pale yellow at the tip, toes quite naked.

Total length about 14 inches, wing $10\frac{1}{2}$, tail 6 inches.

Younger or different sex? Pale bands on the superior surface of the body broader, those on the wing coverts, primaries and secondaries, enclosing tolerably regular bands of black. Scapulars with their outer webs fulvous and pure white.

Spots on the outer webs of the primaries, and bands on the tail nearly white, secondaries broadly tipped with white, each terminal spot enclosing a segment of dark brown.

Entire inferior surface of the body fulvous, feathers having longitudinal stripes only of dark brown; under tail coverts nearly pure white.

Younger? Bands on the back and rump almost obsolete, having the appearance of spots only. Scapulars and some of the wing coverts broadly edged with pure white.

Entire under surface of the body nearly white, with but a tinge of fulvous, the feathers having longitudinal bands only of deep brown. Under tail coverts and tarsi nearly white.

Total length about 14 inches, wing $9\frac{1}{2}$, tail 6 inches.

Hab. South America.

This is a bird of which I have frequently seen specimens, and am surprised that I have not succeeded in finding a description of it. I am acquainted with no species intimately resembling it.

The Committee on the following paper by Dr. Hallowell, reported in favor of publication.

Description of a new species of Salamander from Upper California.

By EDWARD HALLOWELL, M. D.

Salamandra lugubris.

Sp. Char.—Head large, eyes very prominent, tail rather longer than the body, which is cylindrical. Head, tail, extremities, and the rest of the animal dark olive above, lighter beneath; an indistinct irregular row of yellowish spots on each side. Several small spots of the same colour upon the neck and upper part of the tail, and posterior extremities.

Description.—Head large, swollen at the temples, depressed in front; snout obtuse and somewhat rounded; eyes large, latero-superior; nostrils latero-anterior, (small and distant; the palate is provided with two transverse rows of teeth situated immediately behind the posterior nares,) which are incurved internally, and meet posteriorly. There is also a longitudinal row of teeth, separated from those described by an interval of half a line; tongue long and spatulate, very free at its edges, attached by a pedicle at its anterior extremity; neck somewhat contracted, without a gular fold; body and extremities slender, the posterior larger than the anterior; tail compressed, cylindrical, tapering to a point.

Colour. (From a specimen in spirits in the Museum of the Academy.) The animal above is of a uniform dark olive colour; an irregular row of small yellowish spots are observed upon the sides of the body near the dorsum; several are also seen upon the neck, the upper part of the tail, and also the posterior extremities in the specimen examined. The under part of the animal is light olive.

Dimensions.—Length of head $6\frac{1}{2}$ lines; greatest breadth 6 lines; length of neck and body to vent 1 inch 11 lines; length of tail 2 inches 1 line; total length 4 inches 7 lines.

Habitat.—Monterey, Upper California. It is said to be abundant in that region.

The Committee on Dr. Gambel's paper, entitled "Contributions to American Ornithology," reported in favour of publication.

Contributions to American Ornithology.

By WILLIAM GAMBEL, M. D.

ROSTRHAMUS SOCIABILIS, (Vieill.) D'Orb.

Herpetotheres sociabilis, Vieill. Nouv. Dict. Hist. Nat., vol. 18, p. 318.

F. hamatus, Illiger. Temm. Pl. Col. 61, et 231.

Cymindis hamatus, Auc.

The first discovery of this curious and interesting falcon, within the limits of our fauna, is due to the ornithological zeal of Edward Harris, Esq., of New Jersey, who exhibited to the Academy a specimen obtained by himself on the Miami river of Florida, in May, 1844, which, together with many new and rare birds obtained during his travels with Audubon on the Upper Missouri, he has

since generously added to our rich collections. My friend Dr. A. L. Heerman has given me one of four specimens obtained in a recent trip to Florida, with the following memorandum. "On Saturday, May 6th, while fishing in the everglades near the source of the Miami river, I shot four of these birds, of which two were females and the others young; the latter showing by their plumage that they had been bred in the country. On dissecting them, I found their stomachs filled with a species of snail, which lives on the rank grasses of the everglades. They seemed unaware of danger, and were sailing together in the manner of the Mississippi Kite. I also saw on the 8th of May, seven of these birds in the air over Col. English's plantation, who informed me that it was by no means a rare bird in that part of the country."

All the specimens are in immature plumage, and vary considerably. They are above dark brown, beneath dull white, much blotched with brown: the shoulders, and under wing coverts particularly, strongly tinged with ferruginous. The front and throat are sometimes nearly pure white, but generally tinged with ferruginous and streaked with brown.

The plumage of the adult, is of a nearly uniform blackish brown, with the tail at its base, and upper and under coverts pure white.

VIREO ALTILOQUUS, (Vieill.) Gray.

Muscicapa altiloqua, Vieill. Ois. d'Amer. Sept. Vol. 1, p. 67, pl. 38; Edwards' Nat. Hist. Bds. pl. 253; *Vireo longirostris*, Swains.; Faun. Bor. Amer. Bds. p. 237; Nutt. Man. Orn. vol. 2. p. 278; *V. olivaceus*, Gosse, BIs. of Jamaica.

Though long since suspected by Nuttall as occasionally straying into the forests of the Southern States, this species has only recently been actually detected by Dr. Heerman in the peninsula of Florida. He found it rather common about Charlotte Harbour, and procured several specimens. In their search for food he observed them clinging to the branches with the back downwards, and found their stomachs filled with coleopterous insects and flies.

EGRETTA PEALEI, (Bonap.) Gamb.

Ardea Pealei, Bonap. Amer. Orn. vol. 4, pl. 36; Nutt. Man. Orn. vol. 2, p. 49; *A. rufescens*, young, Aud. Bonap. Gray.

Peale's Egret has, I am satisfied, been too hastily considered as the young of the Reddish Egret, strange to say, even by Bonaparte himself,* who, in the article upon that bird in the continuation of Amer. Orn., has so well examined the family to which it belongs, and particularly states, that they do not acquire their full plumage until the third year; young birds being always destitute of the peculiar ornamental plumes. Now, the well known fact that the Herons when young do not have the elongated feathers of the adult, is *prima facie* evidence that *E. Pealei* cannot be the young of *E. rufescens*, when it is ornamented with plumes quite as long and full, and neither in bill or any other part shows the slightest trace of immaturity. But to Dr. Heerman we are indebted for the means of settling the question beyond dispute.

* Comparative List of the Birds of Europe and North America.

He found them breeding in great numbers at Charlotte Harbour, in Florida, and visited the breeding place three successive times, to assure himself that the young birds are not white, but coloured like the adults, only of a duller hue, and without plumes; as he was also informed by his host. He did not see a single white specimen among hundreds of young birds, and has presented to the Academy the true young of *E. rufescens*.

This specimen which is just fully fledged, with a few woolly feathers yet remaining about the head, is developing the colours of the adult *rufescens*, without a single white feather. But what is most convincing, is, that the bill is entirely dusky, with a mere indication that its base will become pale.

Peal's Egret is a smaller bird and less in its proportions every way. The young also is pure white like the adult, but wants the elongated plumes, and has the bill entirely dusky, the basal portion gradually assuming its pale colour as is seen in a specimen brought by Dr. Heerman.

STERNA FRENATA, Gamb.

S. argentea, Nutt. Man. Orn. vol. 2, p. 280; Bonap. Comp. list of Bds. of Eur. and Amer.; Gray's Gen. Bds. non De Wied.; *S. minuta*, Wilson, Aud. pl. 319.

Nuttall was the first to observe differences between the little Terns of Europe and those of America, and supposed ours to be the same with the *S. argentea* of Brazil, described by the Prince de Wied. Having specimens, however, of that species in the collections of the Academy, I find it very distinct from either, and readily distinguished by its very much larger, thicker bill, longer, differently coloured wings, shorter tail, &c.

Like all the closely allied species of Europe and North America, which differ not so much in colour as in form and proportion, the little Terns of the two continents resemble each other so closely, that it is difficult to determine specific characters. But as those species which inhabit a wide range in either country, and not confined to the northern regions, are nearly always found distinct, so the little Terns, extending as they do to the tropics, and not having been as yet found in the arctic regions, should also, according to the laws of geographical distribution, be different.

Some of the distinctions drawn by Nuttall I think will be found dependant on age. The bill in specimens which I have compared of the American is shorter and smaller in its measurements every way, the wings and tarsi are also shorter, and the outer tail feathers more acuminate than in the European, but still I should have hesitated to give it a new name, had it not been considered different by several ornithologists and erroneously referred to *S. argentea* of De Wied.

STERNA REGIA, Gamb.

S. cayana, Aud. pl. 273, Orn. Biog., vol. 3, pl. 505; Bonap.; Giraud, Bds. Long Island, p. 355; *S. cayana*, Lath. ?; *S. erythrorhynchos* De Wied, Bey. Zur. Natur. Brazil ?

Adult male.—Length, 19 inches: extent of wings, 3 ft. 9 in.: length of wing, 15 in.: outer tail feathers, $7\frac{1}{2}$ in.: tarsus, 1 inch and 2-10ths, black: bill bright red, along the ridge, $2\frac{1}{2}$ in.: from corner of the mouth, $3\frac{1}{2}$ in.: from symphysis to point, beneath, 1 inch: depth at commencement of feathers, 7-10ths inch.

This noble species so abundant on our southern coast, has for a long time been considered the *S. cayana* of Latham, notwithstanding its disparity with his description both in size and coloration. It seems to me that the Cayenne Tern must have been founded upon the immature plumage of one of the yellow-billed species of the Brazilian coast, since described by Lichtenstein, probably the *S. magnirostris*.

Young birds of our species would agree pretty well with the *erythrorhyncha* of Brazil, described by the Prince De Wied, as they are somewhat smaller and less proportioned, yet we hesitate to give it that name, until its identity can positively be proved, particularly as the Terns of that coast are peculiar.

The representative of the *regia* in the old world, is the *S. velox* of Rüppell, though quite distinct.

STERNA ELEGANS, Gamb.

Adult male.—With the general plumage of *S. regia*; length 17 in.; of wing $12\frac{1}{2}$ in.: of outer tail feathers 6 and 8-10ths in.: tarsus 1 and 1-10th in.: middle toe and nail 1 and $2\frac{1}{2}$ -10ths in.: bill bright red, along the ridge 1 and 6-10th in.: from corner of mouth, 3 and 3-10ths in.: from symphysis to point beneath $1\frac{1}{2}$ in.: depth at commencement of feathers 5-10ths in.

This elegant species differs from the former not only in proportions, but in the delicate hue of the under parts, which are of a satiny cream color when living, but faded very much in the dried specimen.

The bill is of the same color as in the *regia*, and as long, but much more slender; the prominent angle beneath half an inch farther from the point, and the depth at base two tenths of an inch less. Wings two and a half inches shorter, but of the same color in every respect. Legs pure black; the tarsus nearly as long as in the former, but the toes much shorter. Tail long, pure white and deeply forked, whole top of head from the bill, pure black, extending into an ample flowing crest as in the former species.

The representative of this species in the old world is the *S. affinis*, Rüppell, but it differs from that species in nearly the same respects as *S. regia* does from *S. velox*.

I procured this species on the Pacific coast of Mexico, particularly at Mazatlan at the mouth of the Gulf of California. It is exceedingly delicate in its plumage, and graceful in its mode of flight. I found them congregated in numbers on the sandy shoals of the Bay in the month of April, uttering as they flew a grating Kingfisher-like note.



The Report of the Corresponding Secretary for November and December was read and adopted.

The Annual Report of the Recording Secretary was read and adopted.

The Annual Report of the Treasurer was read and referred to the Auditors.

The Librarian read the following report, which was ordered to be published.

REPORT
OF THE LIBRARIAN
For 1848.

The Librarian respectfully presents the following statement for the present year.

The total additions to the Library, of all descriptions, since the 1st of January, 1848, amount to 1349. The subjoined table exhibits the various subjects embraced in this number, with the proportion of volumes, periodicals and serials, and pamphlets in each subject.

	VOLUMES.					Periodicals and Serials in Parts, Nos., &c.	Pamph- lets.	Total.
	Folio	4to.	8vo.	12mo.	Total Vols.			
General Natural History and								
Mammalogy.....	9	31	93	21	154	91	40	285
Botany.....	4	5	38	5	52	57	12	121
Conchology.....	4	30	35	13	82	133	9	224
Geology.....	4	3	28	1	36	18	16	70
Helminthology.....		2			2			2
Ornithology.....	9	7	23	9	48	36	6	90
Herpetology.....	1			1	2		3	5
Ichthyology.....			2	1	3	2	4	9
Entomology.....	3	4	16	8	31	20	6	57
Mineralogy.....			1		1		2	3
Anatomy and Physiology.....	2	7	20		29	1	16	46
Phys. Science and Chemistry.		3	12		15		7	22
Medicine.....		1	1		2		4	6
Transactions of Societies, An- nals Journals, Proceedings of Societies, &c.....		41	13		54	101		155
Biography.....		2	2		4			4
History.....		1	1		2			2
Antiquities.....	5	1			6		1	7
Voyages and Travels.....	21	27	59	2	109	86		195
Geography.....		1	2		3		4	7
Bibliography.....			10		10			10
Education.....			1		1			1
Reports.....							10	10
Maps.....								3
Miscellaneous.....			6		6		9	15
Total..... 1349								

The whole have been derived from the following sources: from authors 79; from editors 24; from members, correspondents, and others 70; from Societies 72; from Dr. Wilson, on deposit, 1029; from Dr. R. E. Griffith, on deposit, 72. Three Charts of the United States coast Survey were received from the Treasury Department, through Prof. A. D. Bache.

The aggregate additions to the Library in 1847, as stated in the report of that year, amounted to 1072, the greatest number in any single year since 1835, when Mr. Maclure's donations were received. The additions of the present year exceed those of 1847 by 277.

The deposits by Dr. Wilson in 1847 were remarkable for their number and value. In their selection also, and in their adaptation to the wants of the Society, which it has always been his chief desire and pleasure to consult, the excellent judgment characteristic of that gentleman was abundantly shown. The obligations then incurred were sufficiently great, but the statement just presented, exhibits a total of additions derived from him this year nearly double that of the last year.

The entire number of volumes, periodicals and serials in parts or numbers, and pamphlets, which Dr. Wilson has deposited to the present date, is as follows :

Volumes, - - - -	Folios 96, Quartos 212, Octs. 293, Duod. 57, total 858
Periodicals and Serials } in parts, nos. &c. }	" 428, " 407, " 145, " 17, " 997
Pamphlets, - - - -	" 8, " 35, " 43
	1898

To our fellow-member, Dr. Robert E. Griffith, belongs the credit of being the next largest contributor to the Library during the present year, as he was also in 1847. Nearly 250 works have been added by Dr. Griffith within the last two years ; many of them highly valuable for their antiquity and rarity.

Among the contributions this year, is a fine copy of Vyse's celebrated and splendid work on the Pyramids of Egypt, in elephant folio, for which the Society is indebted to Dr. Samuel George Morton. To the same gentleman it is also under great obligations for a donation of the first five volumes of the Asiatic Researches. The Academy's series of that important and frequently consulted work is now nearly complete, one volume only being wanting. The Academy had also the singular good fortune to obtain, at the same period, another set of the same volumes, from its venerable President Mr. William Hembel.

Through the liberality of the late Mrs. Elizabeth Stott, of Philadelphia, the Library has been enriched the present year by the addition of Wallich's elegant work, *Plantæ Asiaticæ Rariores*, in three large folio volumes.

To the different scientific Societies, American and foreign, with which the Academy is in correspondence, its acknowledgments are due for their usual courtesy and attention, in furnishing their transactions and other publications ; especially to the Zoological and Linnean Societies of London, the British Association, the Geneva Society, the Asiatic Society of Bengal, the Royal Agricultural Society of Lyons, the Royal Bavarian Society, the Imperial Society of Naturalists of Moscow, the Imperial Mineralogical Society of St. Petersburg, the American Philosophical Society, the New York Lyceum, the Boston Society of Natural History, and the American Academy.

From numerous distinguished correspondents, authors, &c., and from editors of scientific journals, at home and abroad, the Academy continues to receive their valuable publications, regarding them as evidences of the general interest felt in its success, and of their desire to promote its objects and usefulness.

The rapid accumulations from all these sources during the last few years, have now nearly occupied the available space in their present apartment, which, at the time of the removal of the Library into it from the Hall, less than two years ago, was considered ample enough for any ordinary rate of increase for a considerable period. If, therefore, the Society should be so fortunate as to continue to

enjoy even a moderate share of that liberality which latterly has been so lavishly bestowed upon the Library, it will become necessary during the ensuing year to decide upon some plan for furnishing additional accommodations for the Books in the adjoining rooms.

A new printed catalogue of the Library, or an appendix to the last, will soon be required. The present catalogue was published in the year 1837, and embraced, according to the report of the Committee appointed to prepare it, 6390 volumes, besides 435 Maps and Charts. The Library has rapidly increased since that date, and at the present time cannot contain less than 10,000 volumes, maps, charts, &c. An accurate enumeration will, however, be made of the works contained in each department, and the result submitted in the next annual report.

Rich as are the collections of works in the Library, on Natural History, Voyages and Travels, History, Biography, Antiquity and the Fine Arts, &c., and liberal as have been the recent additions of Dr. Wilson, we are still greatly deficient in the transactions of foreign learned societies. In this Institution these publications are of indispensable importance for successfully conducting investigations in the different branches of science. From the gratifying testimonials which the Academy continually receives of the estimation in which it is held by distinguished societies abroad, we are encouraged to believe, that a more extended correspondence, and offer of interchange of publications with these bodies, would be followed by the desired result, and the deficiencies promptly supplied.

The design stated in the last annual report of furnishing to the Society a list of miscellaneous works, which it is proposed to reject from the Library, has been unavoidably deferred until next year. The propriety of this measure is generally admitted by the members, the space which these books now occupy being greatly needed for the accommodation of others of more utility.

There are also duplicates of many natural history works of much value, which might be advantageously exchanged. A list of these will also be prepared and presented to the Society at an early period.

WM. S. ZANTZINGER,
Librarian.

Hall of the Academy, December 26th, 1848.

The following Report of the Curators was read by the Chairman, Dr Leidy, and ordered to be published.

REPORT OF THE CURATORS

For 1848.

The impetus given to the progress of the Academy within a few years by the extensive and valuable additions to its museum and library from several of its members, still continues in full vigor. The treasures of nature are constantly being poured into its stores, sister societies observe us with emulation, and our journal is abundantly supplied with original memoirs on subjects of Natural History.

Since the report of the Curators for 1847 was presented to the Academy, the Eastern and North-East basement rooms, appropriated to part of the museum, have been finished, and the collections in Mineralogy, Conchology, Entomology, &c., have already been nearly arranged in them.

Further accommodations also have been made for the extension of the Ornithological collection in the hall of the Academy, by the construction of a row of foot cases on the outer edge of the upper or third gallery, similar to those previously existing on the same part of the second gallery.

Every department of the museum has been, and continues to be, carefully attended to, and to most of them, additions have been made during the year 1848, of which we will now give a summary.

The Mammalogical collection, in its present condition, numbers 234 mounted specimens, besides a number of skins, all in a good state of preservation. It has received an addition of 16 specimens during the past year, principally from Drs. Watson, Wilson, Goddard, and Mr. Wm. Wood.

The Ornithological cabinet, under the patronage of Dr. Wilson, still continues to be the most extensive department of our museum, as well as one of the richest collections in the world. This gentleman, during the past year has greatly increased it, by the deposit of the second portion of the Rivoli collection, containing 2584 specimens, and the collection known as that of M. Boucier, of France, comprising 1039 specimens. We have also to acknowledge our indebtedness to the liberality of Mr. Edward Harris, for the donation of a collection of rare North American birds, including nearly all the species discovered by Harris and Audubon during the last expedition of those gentlemen to the mouth of the Yellow Stone river. Besides the foregoing, we have received from members and others 14 specimens, several of which are unique, as the *Picus Lecontei*, from Dr. Jones, of Georgia, &c.

Dr. Wm. Gambel, the Recording Secretary, presented to the Society, a few evenings since, a complete catalogue of the Columbidae in the Academy's collection. Catalogues of the Vultures and Owls are also nearly ready, and will appear in an early number of the Proceedings.

To our collection in Oology has been added, through the kindness of Professor Baird, of Carlisle, a donation of eggs of 56 species of 41 genera of American birds, 24 species of which were accompanied by the nests. To Dr. Heerman we must also express our thanks for seven rare species of eggs from Florid

The Conchological department is still in progress of arrangement by Dr. R. E. Griffith, in the horizontal cases occupying the floor of the east basement room and has been much enriched during 1848 from the private cabinets of Dr. Griffith and Dr. Wilson. These latter have not yet been formally presented through the Curators. We are much indebted to Dr. T. S. Savage, whose zeal in science is only excelled by his former labors in the religious office of missionary to Western Africa, for the donation of 226 specimens of shells, comprising 120 species of 60 genera of rare shells from Western Africa. To Mr. Andrew R. Chambers, of Philadelphia, the gratitude of the Society is owing for the gift of two cabinets, containing 1200 specimens of shells, being part of the well-known Hyde collection, formerly deposited in Peale's museum.

The collection of Crustacea has been arranged by Dr. Bridges during the past

summer in the north-east basement room of the Academy. During the year we have received nine specimens.

The collection in Herpetology and Ichthyology is at present undergoing arrangement preparatory to its removal to the flying gallery in the east basement room. The number of species of Reptilia is as follows: Batrachia 120; Sauria 150; Ophidia 242; Chelonia? A conjectural estimate of the number of fishes amounts to 450 species. During 1848, the collection received an addition of 12 species of reptilia, and 16 species of fishes.

The collection in Comparative Anatomy is in good condition, gradually increases, and comprises at present, exclusive of Dr. Morton's extensive series of human crania, 307 crania of mammalia, 658 do. of birds, 68 do. of reptilia, 30 do. of fishes, and 39 mounted skeletons. The collection of Dr. Morton continues to be probably the largest in the world, numbering at present 819 human crania, besides 28 casts of crania of various nations, ancient and modern. During 1848 we have received 12 mounted skeletons, from Drs. Wilson, Watson, Meigs, and Hallowell, and Messrs. Germain, Lambert, and Ashmead; 21 crania from Dr. Wilson; and the deposit of 73 crania, principally human, by Dr. Morton.

The collection in Palæontology, so far as arranged, is contained in the two double rows of horizontal cases occupying the floor of the hall, which, when the last report of the Curators was written, had not been finished. It has been greatly enriched during the past year from a variety of sources. We express our thanks for a magnificent, and, to the American palæontologist for study and comparison, an invaluable gift, from the Honourable Court of Directors of the East India Company, consisting of 124 well made and coloured casts of fossils from the Sivalik Hills of India, comprising casts of fragments of 36 species of 25 genera of mammalia; 1 species of bird; 5 species of 4 genera of reptilia; and 1 species of fish. We cannot appreciate too highly the intelligence of this honourable and celebrated body, when a voluntary gift of such an expensive character is made, having no other object in view than the promotion of science. We also feel our indebtedness to Dr. Thomas Horsfield, Curator of the East India Company's museum, for a fine cast of the cranium of *Sivatherium giganteum*, the original of which is in the British Museum. To the memory of the late Dr. Carpenter, of New Orleans, we owe our grateful recollections, for the donation of one-half of the inferior maxilla and several teeth of the fossil *Tapirus Americanus*. To Dr. T. B. Wilson, the lasting gratitude of the Academy is owing, for the largest and most valuable donation in natural history probably ever made in America, consisting of the following collections: Mr. Conrad's collection of American fossils, containing about 3000 specimens and 1000 species; (in this collection are the originals of Dr. Morton from the cretaceous formation;) a general collection of British fossils, containing 9402 specimens, comprising 2935 species; (this collection includes the selected specimens from the cabinet of the late Miss Bannett, of England;) a collection of 2155 specimens, comprising 501 species, from the cretaceous formation of France; a collection of German fossils, containing 650 specimens of 500 species; a collection of Italian fossils from the tertiary of Piedmont, containing 2000 specimens of 600 species; the total of which is 17,207 specimens, and 5545 species. Dr. Wilson has also deposited a very perfect specimen of *Ichthyosaurus intermedius*. To Mr. Joseph

Culbertson, we are indebted for the deposit of the unique specimens of the new genus of fossil mammalia *Merycoidodon*. The Professors of the Jardin des Plantes have presented to us several of their beautifully made casts of *Anoplotherium* and *Paleotherium*. Besides the foregoing we have received 128 specimens from various members and others.

In Entomology, it affords us pleasure to say, that the collection is in an excellent state of preservation, and is in steady progress of arrangement by Dr. Zantzinger, and from the many donations in the past two years already numbers several thousand specimens of Coleoptera and Lepidoptera. The impression which unfortunately exists, that this department of natural science is not sufficiently cared for in this institution, we hope will be henceforward removed. Members and friends of the Academy need not now hesitate before presenting or depositing collections of insects in the institution, as the danger of their destruction from neglect or other causes no longer exists. At present, this like the other departments, is under the constant supervision of two officers, whose duty it is not to permit any portion of the property of the Society which is placed in their charge to suffer from neglect or depredation. In the course of the last year Dr. Wilson presented 200 specimens of American and foreign Lepidoptera to the cabinet. We also acknowledge our indebtedness to Mr. Wm. Hobson, of Kingsessing, for the donation of 500 determined specimens of British Coleoptera; to Mr. Edward Doubleday, of the British Museum, for a very fine collection of about 900 determined and arranged species of British Coleoptera; and to Dr. A. L. Heerman, our fellow member, for numerous specimens of American Lepidoptera, chiefly from Key West, Florida, many of which are rare.

The Cabinet of Mineralogy and Geology during the past summer has been carefully and almost completely arranged by our fellow members Messrs. Vaux, Ashmead and Gambel. It has received some rich additions during the last year, among which should be particularly mentioned a very large and valuable donation from Dr. Wilson, numbering in all 2039 specimens, almost exclusively European, many of them of the rarest and choicest character. Our cabinet of European minerals is now one of the best in the country, although still very deficient in American specimens. The example which has been set by Dr. Wilson we hope may induce others to supply this deficiency.

To M. Bourcier of France, through Dr. Wilson, we have become indebted for the donation of 70 very fine specimens of blue and green carbonate, and red oxide of copper, among which are many and rare modifications of the primitive crystalline form. Nor should we fail to mention the deposit by Mr. Vaux, of an enormous crystal of Beryl, weighing 185 lbs., from Acworth, New Hampshire. Besides these there were presented 40 specimens of minerals by several of the members and others. Among them, are some of the more lately discovered minerals, presented by Mr. Markoe of Washington, and some fine specimens of Elba iron ore from Dr. Carson.

The unrestricted admission of persons to the museum of the Academy upon the afternoons of Tuesdays and Saturdays, having been found to be attended with some injury and even destruction of its furniture, caused the Society, last year, to change one of the days of exhibition, viz. Saturday to Friday, and to issue gratuitous tickets of admission, to be obtained from members upon application. This arrangement has been followed by the most beneficial effects;

persons really desirous of inspecting the collections, take the trouble to procure a ticket, with which they feel responsible for their conduct; the introduction of crowds is also avoided, which, from constant motion, give rise to dust, so detrimental to the more perishable articles in a natural history collection. The janitor, who keeps a register of the names and residences of visitors to the Museum on the Exhibition days, informs me that upwards of three thousand persons have availed themselves of this privilege since the middle of May last, when the new arrangement went into effect. This is an average of about 380 admissions per month, or nearly 5000 per annum.

JOSEPH LEIDY,

Chairman of Curators.

December 26th, 1848.

The Academy then proceeded to an election for Officers for 1849. The following were reported by the tellers as elected :—

PRESIDENT.

William Hembel.

VICE PRESIDENTS.

J. Price Wetherill,
Samuel George Morton, M. D.

CORRESPONDING SECRETARY.

John Cassin.

RECORDING SECRETARY.

William Gambel, M. D.

LIBRARIAN.

William S. Zantzinger, M. D.

TREASURER.

George W. Carpenter.

CURATORS.

Joseph Leidy, M. D.,
William S. Vaux,
Samuel Ashmead,
John Cassin.

AUDITORS.

Robert Pearsall,
William S. Vaux,
Robert Bridges, M. D.

PUBLICATION COMMITTEE.

William S. Vaux,
S. G. Morton, M. D.,
William Gambel, M. D.,
Robert E. Griffith, M. D.,
Samuel Ashmead.